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ABSTRACT

A novel media access control (MAC) mechanism that utilizes synchronization signaling. The invention enables nodes from different networks having different technologies and protocols to coexistence using the same shared media. The present invention is suitable for use with a wide range of different types of network and technologies and is particularly useful in providing coexistence capabilities to powerline based data communication systems. Specific time slots are assigned for the transmission of a frame occupation signal to indicate to all nodes that the channel is occupied. A synchronization signal is also transmitted in random fashion during a preassigned time slot during the frame so as to provide accurate timing for the frame occupation signal. During times that a node does not transmit the synchronization signal, it listens to the channel. A timing signal is derived from the synchronization signals received from other nodes during this quiet period. The node then adjusts its internal clock in accordance with the timing signal.